PATENT ABSTRACTS OF JAPAN

(11)Publication number:

2001-013306

(43) Date of publication of application: 19.01.2001

(51)Int.CI.

G02B 3/14 G02B 26/08

(21)Application number: 11-181747

(71)Applicant: CANON INC

(22)Date of filing:

28.06.1999

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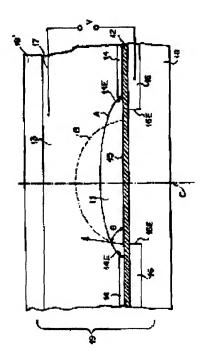
HORIKIRI TOMONARI

(54) VARIABLE FOCUS LENS DEVICE

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a variable focus lens device in which the surface form of the lens can be stably maintained by suppressing the changes in the lens surface form against the changes in the external force having an effect on the liquid lens.

SOLUTION: A conductive liquid 13 containing a gelling agent and an insulating liquid drop 11 are housed in a cell 19, and a circular drop contact region 15 in contact with the drop 11 is formed on the inner surface of the cell. A surface layer 14 having lower affinity to the drop 11 than that of the insulating layer 12 is formed on the insulating layer 12, and an opening 14E is formed in a part of the layer 14 to expose a part of the insulating layer 12. The drop contact region 15 consists of the exposed part of the insulating layer. The interfacial form between the conductive liquid 13 and the



drop 11 is changed by changing the voltage applied by a voltage applying means V between an electrode 16 on the opposite face of the insulating layer 12 to the conductive liquid 13 and the drop 11, and an electrode 17 in contact with the conductive liquid 13. The cell 19 has a light-transmitting property in the portion corresponding to the path of the incident and outgoing light on the interface.

LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

Searching PAJ

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

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